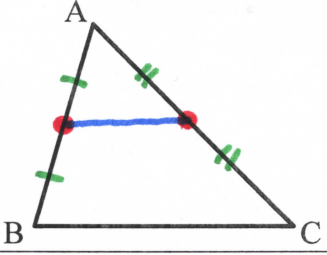
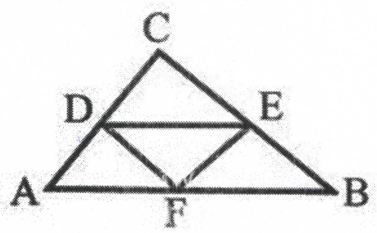
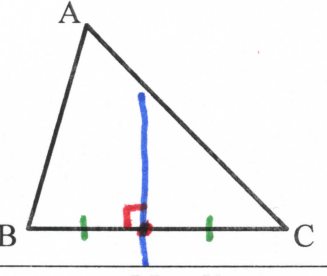
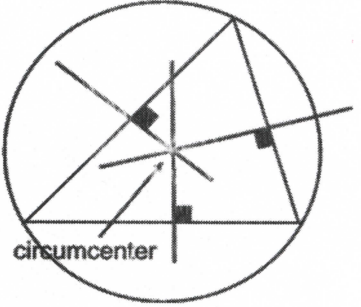
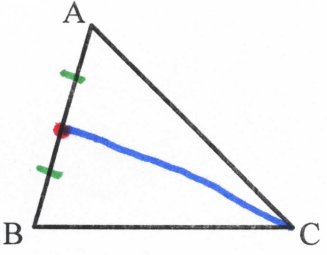
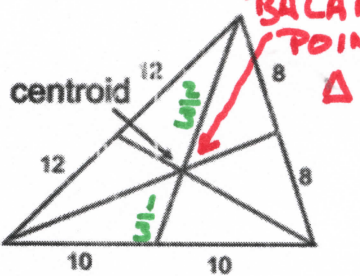
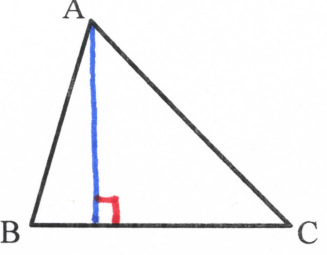
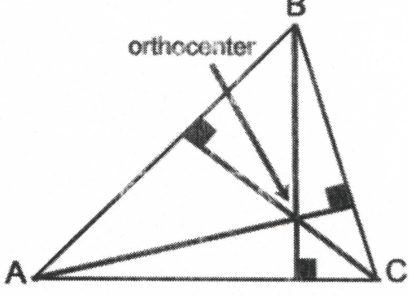
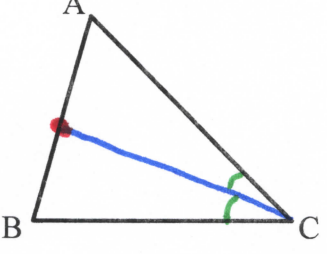
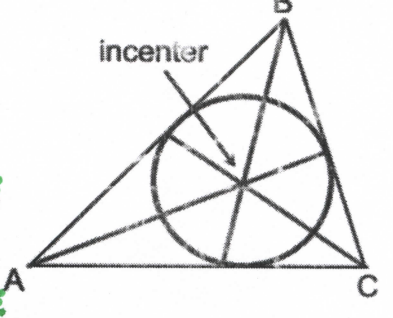
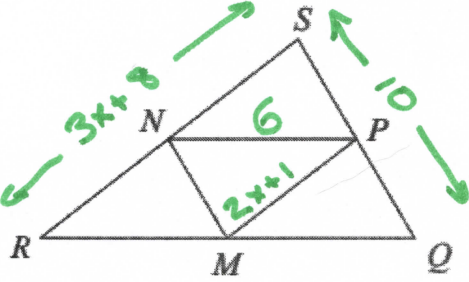
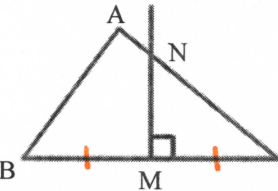
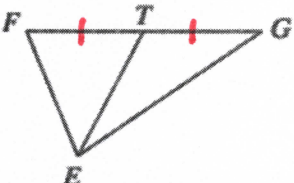
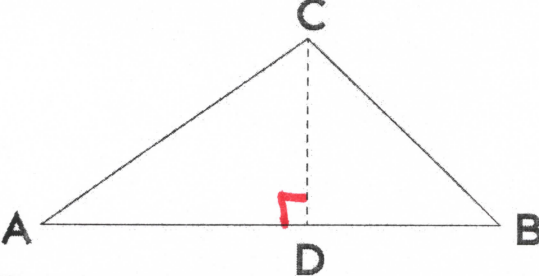
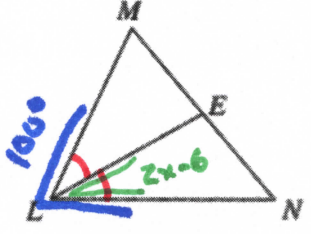


Triangle Segments and Centers Review

Name: _____

Draw One and Mark the Picture	Definition	Special Properties	Draw All 3 Name the Center
Midsegment 	<ul style="list-style-type: none"> - CONNECTS MIDPOINTS OF 2 SIDES 	<ul style="list-style-type: none"> - PARALLEL TO 3RD SIDE - $\frac{1}{2}$ LENGTH OF 3RD SIDE 	
Perpendicular Bisector 	<ul style="list-style-type: none"> - PERPENDICULAR TO SIDE - BISECTS SIDE 	<ul style="list-style-type: none"> - EQUIDISTANT FROM VERTICES - 90° ANGLE - SPLITS SIDE INTO 2 \cong SEGMENTS 	 <p>circumcenter</p>
Median 	<ul style="list-style-type: none"> - CONNECTS VERTEX TO MIDPOINT OF OPPOSITE SIDE 	<ul style="list-style-type: none"> - SPLITS OPPOSITE SIDE INTO 2 \cong SEGMENTS - CENTROID SPLITS MEDIAN INTO $\frac{2}{3}$ $\frac{1}{3}$ SEGMENTS 	 <p>centroid</p> <p>BALANCE POINT OF Δ</p>
Altitude 	<ul style="list-style-type: none"> - PERPENDICULAR SEGMENT BETWEEN A VERTEX AND THE OPPOSITE SIDE 	<ul style="list-style-type: none"> - "HEIGHT" OF TRIANGLE - FORMS A 90° ANGLE 	 <p>orthocenter</p>
Angle Bisector 	<ul style="list-style-type: none"> - BISECTS ANGLE 	<ul style="list-style-type: none"> - ALL POINTS ON BISECTOR EQUIDISTANT FROM SIDES OF ANGLE - SPLITS OPPOSITE SIDE IN PROPORTION TO SIDES OF ANGLE - SPLITS ANGLE INTO 2 \cong ANGLES 	 <p>incenter</p>

MARK THE PICTURE	SOLVE AN EQUATION	FIND THESE ANSWERS
<p>NP, MP, and NM are Midsegments: $SQ = 10$, $NP = 6$, $MP = 2x + 1$, $RS = 3x + 8$</p> 	$RS = 2(NP)$ $3x + 8 = 2(2x + 1)$ $3x + 8 = 4x + 2$ $\begin{array}{r} 3x + 8 = 4x + 2 \\ -3x \quad -3x \\ \hline 8 = x + 2 \\ -2 \quad -2 \\ \hline 6 = x \end{array}$	<p>$NM = 5$ $RQ = 12$ $x = 6$ $MP = 13$ $RS = 26$</p>
<p>MN is a Perpendicular Bisector: $\angle NMB = 6x + 12$, $BM = 16$, $MC = 3y + 4$</p>  $BM = MC$ $16 = 3y + 4$ $\begin{array}{r} 16 = 3y + 4 \\ -4 \quad -4 \\ \hline 12 = 3y \\ \frac{12}{3} = \frac{3y}{3} \\ 4 = y \end{array}$	$6x + 12 = 90$ $\begin{array}{r} 6x + 12 = 90 \\ -12 \quad -12 \\ \hline 6x = 78 \\ \frac{6x}{6} = \frac{78}{6} \\ x = 13 \end{array}$	<p>$x = 13$ $y = 4$ $BC = 32$</p>
<p>TE is a Median: $FT = 5x + 4$, $TG = 3x + 10$</p> 	$FT = TG$ $5x + 4 = 3x + 10$ $\begin{array}{r} 5x + 4 = 3x + 10 \\ -3x \quad -3x \\ \hline 2x + 4 = 10 \\ -4 \quad -4 \\ \hline 2x = 6 \\ \frac{2x}{2} = \frac{6}{2} \\ x = 3 \end{array}$	<p>$x = 3$ $FT = 19$ $TG = 19$ $FG = 38$</p>
<p>CD is an Altitude: $\angle ADC = 5x - 10$</p> 	$5x - 10 = 90$ $\begin{array}{r} 5x - 10 = 90 \\ +10 \quad +10 \\ \hline 5x = 100 \\ \frac{5x}{5} = \frac{100}{5} \\ x = 20 \end{array}$	<p>$x = 20$ $\angle CDB = 90^\circ$</p>
<p>LE is an Angle Bisector: $\angle MLN = 100$, $\angle NLE = 2x - 6$</p> 	$\angle MLN = 2(\angle NLE)$ $100 = 2(2x - 6)$ $100 = 4x - 12$ $\begin{array}{r} 100 = 4x - 12 \\ +12 \quad +12 \\ \hline 112 = 4x \\ \frac{112}{4} = \frac{4x}{4} \\ 28 = x \end{array}$	<p>$x = 28$ $\angle NLE = 50^\circ$ $\angle MLE = 50^\circ$</p>